Currently vaccinated domestic animals (for which an approved rabies vaccine is available) which have been bitten or otherwise significantly exposed to a rabid animal should be humanely killed. However, if sufficient justification for preserving the animal exists, the exposed vaccinated animal should be given a booster rabies vaccination immediately and placed in strict isolation for 45 days.

Confusion has occurred with respect to: 1) the 10-day observation period for a dog or cat that has bitten or scratched a human and 2) the period of strict isolation required for an unvaccinated dog or cat that has been exposed to a rabid animal. A dog or cat that develops rabies more than ten days after having bitten a person is considered not to have had rabies virus present in its saliva at the time of the bite. (Generally, cats and dogs will survive no more than 3-5 days once the rabies virus becomes present in the saliva.) Since exposure to rabies virus has not occurred, PEP is not necessary.

On the other hand, a dog or cat exposed to a rabid animal and which does not develop rabies within the 10-day observation period cannot be considered free from developing rabies in the future since the incubation period for rabies may be more than one year. Therefore, the 10-day observation period is useful in ensuring that a dog or cat was not rabid at the time of biting a human, but it is not useful in excluding the possibility of subsequent rabies in the animal under observation. A prolonged isolation and observation period is necessary to exclude the possibility of subsequent rabies in a dog or cat exposed to a rabid animal.

POSTEXPOSURE PROPHYLAXIS

The essential components of rabies postexposure prophylaxis are local treatment of wounds and immunization, including administration, in most instances, of both rabies immune globulin and vaccine.

Local Treatment of Wounds

This section cannot be overemphasized. Immediate and thorough washing of all bite wounds and scratches with soap and water is perhaps the most effective measure for preventing rabies. In experimental animals, simple local wound cleansing has been shown to reduce markedly the likelihood of rabies.

Tetanus immunization and measures to control bacterial infection should be given as indicated.

Decision to Provide Immunoprophylaxis

The decision to treat or not to treat must be based on all available information about the circumstances surrounding the exposure incident. The **Postexposure Prophylaxis Decision Tree** at the middle of this manual is helpful in guiding the evaluation of a possible rabies exposure and determining the need or lack of need for antirabies treatment. Local or state public health departments may be consulted to clarify the guidance provided in this decision tree and to provide information concerning the prevalence of animal rabies in the geographic locale where the exposure occurred.

Immunization

Postexposure antirabies immunization should include administration of both rabies antibody (HRIG) and vaccine (HDCV, RVA or PCEC). An exception to this guideline is made for exposed persons who have been previously immunized with the

Table 1. Rabies postexposure prophylaxis schedule, United States

Vaccination status	Treatment	Regimen*
Not previously vaccinated	Local wound cleansing	All postexposure treatment should begin with immediate thorough cleansing of all wounds with soap and water.
	HRIG	20 IU/kg or 0.06 ml/lb body weight. As much as possible of the **full dose** should be infiltrated into and around the wound(s), and the remainder should be administered IM at an anatomical site distant from vaccine administration. HRIG should not be administered in the same syringe as vaccine. Because HRIG may partially suppress active production of antibody, no more than the recommended dose should be given.
	Vaccine	HDCV, RVA or PCEC, 1.0 ml, IM (deltoid areas**), on days 0, 3, 7, 14 and 28 (day 0 indicates the first day of treatment).
Previously vaccinated***	Local wound cleansing	All postexposure treatment should begin with immediate thorough cleansing of all wounds with soap and water.
	HRIG	HRIG should not be administered.
	Vaccine	HDCV, RVA, or PCEC 1.0 ml, IM (deltoid areas**), on days 0 and 3.

*These regimens are applicable for all age groups, including children.

**The deltoid area is the only acceptable site of vaccination for adults and older children. For younger children, the outer aspect of the thigh may be used. Vaccine should never be administered in the gluteal area.

***Any person with a history of preexposure vaccination with HDCV, RVA or PCEC; prior postexposure prophylaxis with HDCV, RVA or PCEC; or previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.

recommended preexposure or postexposure regimens of HDCV, RVA or PCEC (or who have been immunized with other types of vaccines and have documented an adequate rabies antibody titer). In these cases, HRIG would not be given and only two doses of vaccine would be given on day 0 and day 3 (**Table 1**).

The combination of immune globulin and vaccine is recommended for both bite exposures and nonbite exposures, regardless of the interval between exposure and treatment. **The sooner treatment is begun after exposure, the better the chance of effectiveness.** However, if there was a delay in recognizing a rabies exposure, treatment may be begun even months after that exposure occurred.

Five 1.0 ml doses of HDCV, RVA or PCEC should be given intramuscularly (in the deltoid region) in adults, or the anterolateral thigh in infants. The ID route should not be used. The first dose should be given **as soon as possible after exposure**; additional doses should be given on days 3, 7, 14, and 28 after the first dose. Because the antibody response following the recommended vaccination regimen has been uniformly satisfactory, routine postvaccination serologic testing is not recommended by or available from the Texas Department of Health. In unusual instances, such as when the patient is immunodeficient or immunosuppressed, serologic testing (Rapid Fluorescent Focus Inhibition Test - RFFIT) is indicated. RFFIT testing is available through the Department of Veterinary Diagnosis, Veterinary Medical Center, Kansas State University, Manhattan, Kansas 66506, telephone: (785) 532-5650.

The selection of sites for intramuscular injections appears to be critical for vaccine efficacy. In adults and larger children, HDCV, RVA or PCEC should be given in the deltoid area. In infants and small children, the anterolateral thigh should be used. In the two laboratory confirmed human cases of rabies following postexposure treatment with HDCV and HRIG within 24 hours, the HDCV was administered in the gluteal area. Presumably, subcutaneous fat in the gluteal area may interfere with the immunogenicity of HDCV.

HRIG is administered only once, at the beginning of antirabies prophylaxis, to provide immediate antibodies until the patient responds to HDCV by active production of antibodies. If HRIG was not given when vaccination was begun, it can be given up to the eighth day after the first dose of vaccine was given. From the eighth day on, HRIG is not indicated, since an antibody response to the vaccine is presumed to have occurred.

The recommended dose of HRIG is 20 IU/kg or 0.06ml/lb of body weight. As much as possible of the full dose of HRIG should be thoroughly infiltrated into and around

the wound(s). Any remaining volume should be administered intramuscularly at a site distant from vaccine inoculation. Because HRIG may partially suppress active production of antibody, no more than the recommended dose of HRIG should be given.

TREATMENT OUTSIDE THE UNITED STATES

VERORAB® is a rabies vaccine preparation currently being considered for licensure in the United States. This vaccine is reported to produce a very good antibody response even when given subcutaneously. It is now being used in Mexico, often without rabies immune globulin.

If postexposure treatment is begun outside the United States with locally produced biologicals, it may be desirable to provide additional treatment when the patient reaches the United States. For specific advice in such cases, contact the Bureau of Communicable Disease Control, Texas Department of Health (512-458-7455).

PREEXPOSURE IMMUNIZATION

Preexposure prophylaxis is given for several reasons. First, it may provide protection to persons with inapparent exposures to rabies. Second, it may protect persons whose postexposure therapy might be expected to be delayed. Finally, although it does not eliminate the need for additional therapy after a rabies exposure, it simplifies therapy by eliminating the need for rabies immune globulin and decreasing the number of doses of rabies vaccine needed. This is of particular importance for persons at high risk of being exposed in countries where the rabies biologicals may be difficult to obtain. The guidelines for offering preexposure immunization are found in **Table 2**.